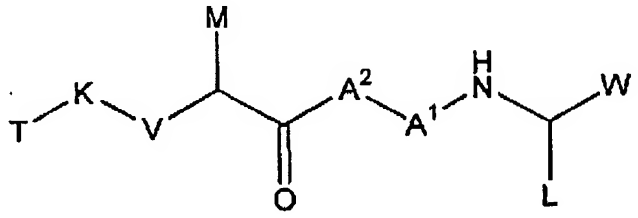
Application No. 10/607,716
Reply dated October 20, 2005
In Reply to September 20, 2005 Notice of Non-Compliant Amendment

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

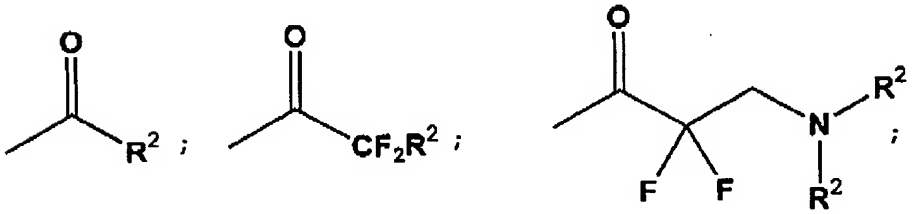
Listing of Claims

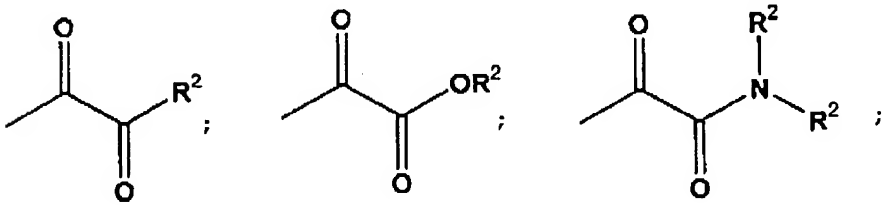
1. (Currently Amended) A compound of the formula (II):

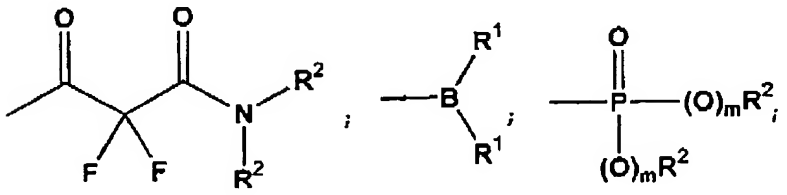
(II) 

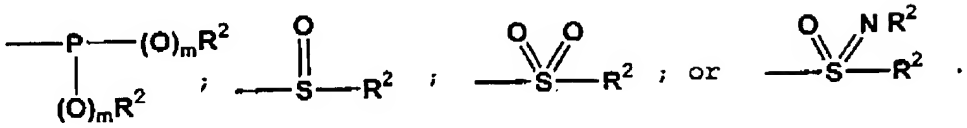
, wherein

W is:









m is 0 or 1;

each R^1 is hydroxy, alkoxy, or aryloxy, or each R^1 is an oxygen atom and together with the boron, to which they are each bound, form a 5-7 membered ring, wherein the ring atoms are carbon, nitrogen, or oxygen;

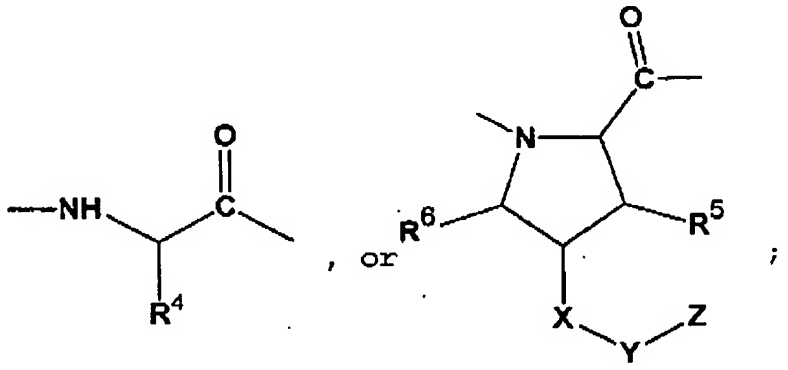
each R^2 is independently hydrogen, alkyl, alkenyl, aryl, aralkyl, aralkenyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heteroaryl, or heteroaralkyl, or two R^2 groups, which are bound to the same nitrogen atom, form together with that nitrogen atom, a 5-7 membered monocyclic heterocyclic ring system; wherein any R^2 carbon atom is optionally substituted with J;

J is alkyl, aryl, aralkyl, alkoxy, aryloxy, aralkoxy, cycloalkyl, cycloalkoxy, heterocyclyl, heterocyclyloxy, heterocyclylalkyl, keto, hydroxy, amino, alkylamino, alkanoylamino, aroylamino, aralkanoylamino, carboxy, carboxyalkyl, carboxamidoalkyl, halo, cyano, nitro, formyl, acyl, sulfonyl, or sulfonamido and is optionally substituted with 1-3 J^1 groups;

J^1 is alkyl, aryl, aralkyl, alkoxy, aryloxy, heterocyclyl, heterocyclyloxy, keto, hydroxy, amino, alkanoylamino, aroylamino, carboxy, carboxyalkyl, carboxamidoalkyl, halo, cyano, nitro, formyl, sulfonyl, or sulfonamido;

L is alkyl, alkenyl, or alkynyl, wherein any hydrogen is optionally substituted with halogen, and wherein any hydrogen or halogen atom bound to any terminal carbon atom is optionally substituted with sulfhydryl or hydroxy;

A^1 is a bond,



, or

;

R^4 is alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl, carboxyalkyl, or carboxamidoalkyl, and is optionally substituted with 1-3 J groups;

R^5 and R^6 are independently hydrogen, alkyl, alkenyl, aryl, aralkyl, aralkenyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl, and is optionally substituted with 1-3 J groups;

X is a bond, -C(H)(R^7)-, -O-, -S-, or –N(R^8)-;

R^7 is hydrogen, alkyl, alkenyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl, and is optionally ~~substituted~~ substituted with 1-3 J groups;

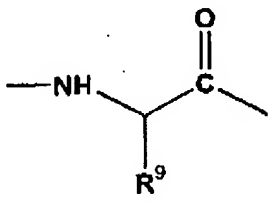
R^8 is hydrogen, alkyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl, aralkanoyl, heterocyclanoyl, heteroaralkanoyl, $-C(O)R^{14}$, $-SO_2R^{14}$, or carboxamido, and is optionally ~~substitituted~~ substituted with 1-3 J groups; or R^8 and Z, together with the atoms to which they are bound, form a nitrogen containing mono- or bicyclic ring system optionally substituted with 1-3 J groups;

R^{14} is alkyl, aryl, aralkyl, heterocyclyl, ~~heterocyclylalkyl~~ heterocyclylalkyl, heteroaryl, or heteroaralkyl;

Y is a bond, $-CH_2-$, $-C(O)-$, $-C(O)C(O)-$, $-S(O)-$, $-S(O)_2-$, or $-S(O)(NR^7)-$, wherein R^7 is as defined above;

Z is alkyl, aryl, aralkyl, cycloalkyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl, $-OR^2$, or $-N(R^2)_2$, wherein any carbon atom is optionally substituted with J, wherein R^2 is as defined above;

A^2 is a bond or



;

R^9 is alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl, carboxyalkyl, or carboxamidoalkyl, and is optionally substituted with 1-3 J groups;

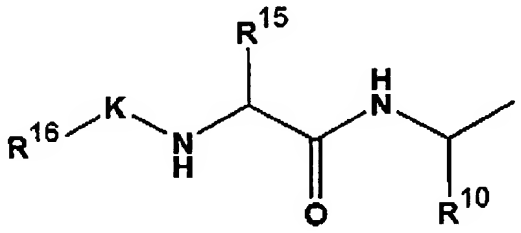
M is alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl, optionally substituted by 1-3 J groups, wherein any alkyl carbon atom may be replaced by a heteroatom;

V is a bond, -CH_2-, -C(H)(R^{11})-, -O-, -S-, or -N(R^{11})-;

R^{11} is hydrogen or C_{1-3} alkyl;

K is a bond, -O-, -S-, -C(O)-, -S(O)-, -$S(O)_2$-, or -S(O)(NR^{11})-, wherein R^{11} is as defined above;

T is -R^{12}, -alkyl-R^{12}, -alkenyl-R^{12}, -alkynyl-R^{12}, -OR^{12}, -$N(R^{12})_2$, -$C(O)R^{12}$, -C(=NOalkyl)R^{12}, or



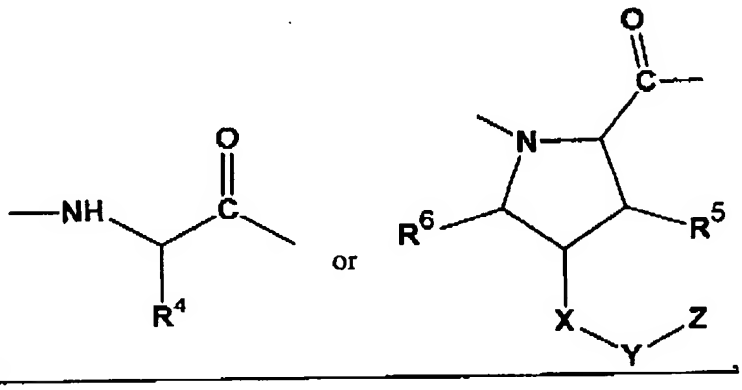
;

R^{12} is hydrogen, aryl, heteroaryl, cycloalkyl, heterocyclyl, cycloalkylidenyl, or heterocycloalkylidenyl, and is optionally substituted with 1-3 J groups, or a first R^{12} and a second R^{12}, together with the nitrogen to which they are bound, form a mono- or bicyclic ring system optionally substituted by 1-3 J groups;

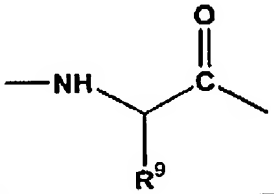
R^{10} is alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl, carboxyalkyl, or carboxamidoalkyl, and is optionally substituted with 1-3 hydrogens J groups;

R^{15} is alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl, carboxyalkyl, or carboxamidoalkyl, and is optionally substituted with 1-3 J groups; and

R^{16} is hydrogen, alkyl, aryl, heteroaryl, cycloalkyl, or heterocyclyl; provided that when



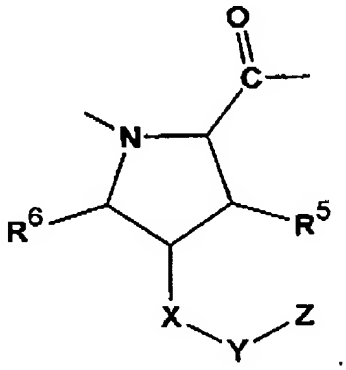
A^1 is _____,



A^2 is _____, and K is –C(O)-, then V is not $-N(R^{11})-$.

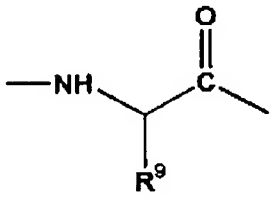
2. (Original) The compound according to claim 1,

wherein A1 is:



3. (Original) The compound according to claim 2, wherein R^5 and R^6 are hydrogen.

4. (Original) The compound according to claim 3, wherein A^2 is:



and R^9 is alkyl.

5. (Original) The compound according to claim 4, wherein R^9 is isopropyl.

6. (Original) The compound according to claim 5, wherein L is alkyl, alkenyl, or alkynyl, wherein any hydrogen is optionally substituted with halogen, and wherein any hydrogen or halogen atom bound to any terminal carbon atom is optionally substituted with sulfhydryl or hydroxy.

7. (Original) The compound according to claim 6, wherein L is trihalomethyl, sulfhydryl, or alkyl substituted with trihalomethyl, sulfhydryl, or hydroxy.

8. (Original) The compound according to claim 7, wherein:

X is –O- or –N(H)-; and

Y is $-CH_2-$, -C(O)-, or $-S(O)_2-$.

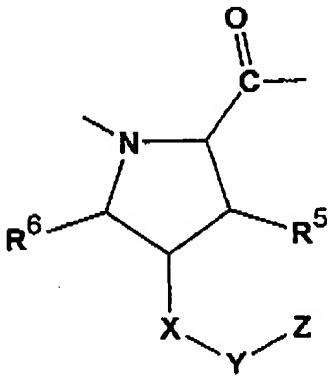
9. (Currently Amended) The compound according to claim 8, wherein:

V is –N(H)- and

K is ~~-C(O)-~~ or $-S(O)_2-$.

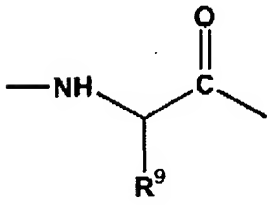
10. (Currently Amended) The compound according to claim 1, wherein

A^1 is:



, and R^5 and R^6 are hydrogen;

A^2 is a bond or[[:]]



and R^9 is isopropyl;

L is ethyl;

X is –O- or –N(H)-;

Y is $-CH_2-$, -C(O)-, or $-S(O)_2-$;

V is –N(H)-; and

K is ~~-C(O)-~~ $-S(O)_2-$.

11. (Original) The compound according to claim 10, wherein M is isopropyl.

12. (Original) The compound according to claim 11, wherein Z is aryl or heteroaryl.

13. (Original) The compound according to claim 12, wherein T is aryl or heteroaryl.

14. (Original) The compound according to claim 13, wherein T is pyrazine.

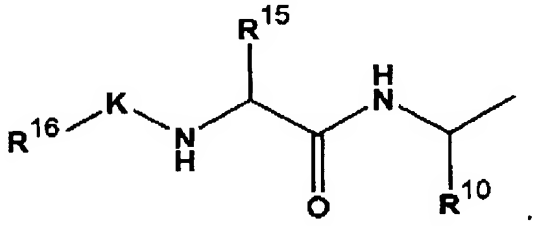
15. (Original) The compound according to claim 10, wherein X is –O- and Y is $-CH_2-$.

16. (Original) The compound according to claim 15, wherein Z is aryl or heteroaryl.

17. (Original) The compound according to claim 16, wherein Z is aryl.

18. (Currently Amended) The compound according to claim[[10]] 17, wherein M is isopropyl.

19. (Currently Amended) The compound according to claim[[18]] 10, wherein T is $-R^{12}$, $-OR^{12}$, $-N(R^{12})_2$, or



20. (Currently Amended) The compound according to claim 19, wherein M is alkyl, heteroaralkyl, aryl, cycloalkylalkyl, aralkyl, or aralkyl[[,]] wherein one of the alkyl carbon atoms is replaced by O or S.

21. (Currently Amended) The compound according to claim 20, wherein ~~said heteroatom is S or O~~ M is propyl, methyl, pyridylmethyl, benzyl, naphthylmethyl, phenyl, imidazolylmethyl, thiophenylmethyl, cyclohexylmethyl, phenethyl, benzylthiomethyl, or benzyloxyethyl.

22. (Original) The compound according to claim 21, wherein T is aryl or heteroaryl.

23. (Original) The compound according to claim 22, wherein T is pyrazine.

24. (Currently Amended) The compound according to claim 3, wherein A^2 is a bond;

L is ethyl;

X is –O-;

Y is $-CH_2-$;

V is –N(H)-; and

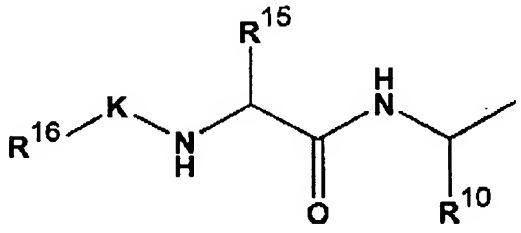
K is ~~–C(O)- or~~ $-S(O)_2-$.

25. (Original) The compound according to claim 24, wherein M is isopropyl.

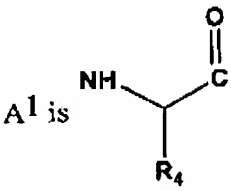
26. (Original) The compound according to claim 25, wherein Z is aryl or heteroaryl.

27. (Original) The compound according to claim 26, wherein Z is phenyl.

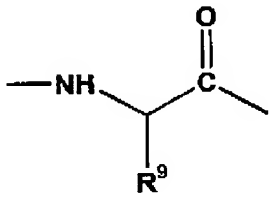
28. (Original) The compound according to claim 27, wherein T is $-R^{12}$, -alkyl-R^{12}, -alkenyl-R^{12}, $-OR^{12}$, $-N(R^{12})_2$, $-C(=NOalkyl)R^{12}$, or



29. (Original) The compound according to claim 1, wherein

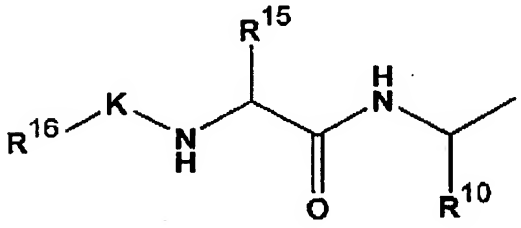
A^1 is  ; and

A^2 is

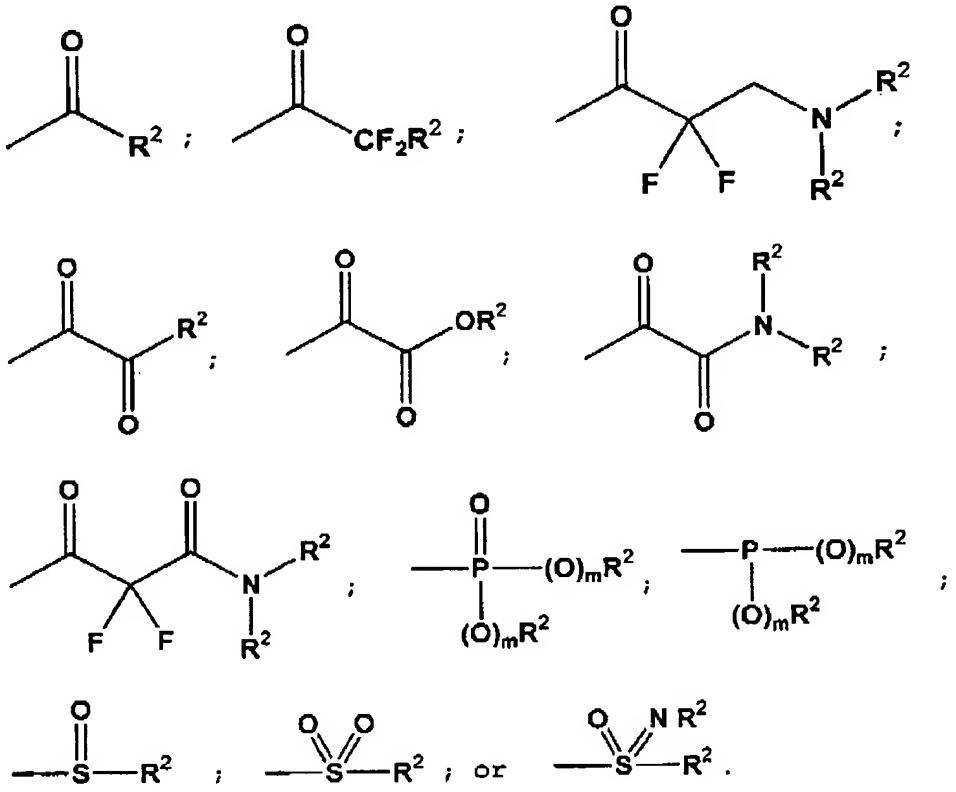


30. (Currently Amended) The compound according to claim 29, wherein M is isopropyl and K is ~~C(O)~~ ~~S(O)2~~.

31. (Original) The compound according to claim 30, wherein T is $-R^{12}$, -alkyl-R^{12}, -alkenyl-R^{12}, $-OR^{12}$, $-N(R^{12})_2$, $-C(=NOalkyl)R^{12}$, or



32. (Original) The compound according to any one of claims 1-31, wherein W is



33. (Currently Amended) A pharmaceutically acceptable composition comprising:

a) a compound according to any of claims[[1-32]] 1-31 in an amount effective to inhibit HCV NS3 protease; and

b) a pharmaceutically suitable carrier.

34. (Currently Amended) A method for inhibiting serine protease activity in a patient comprising the step of administering to said patient a compound according to any one of claims[[1-32]] 1-31.

35. (Original) The method according to claim 34, wherein the serine protease is HCV NS3 protease.

36. (Currently Amended) A method for treating or preventing a hepatitis C viral infection in a patient comprising the step of administering to said patient a compound according to any one of claims[[1-32]] 1-31.

37. (Currently Amended) The method according to claim 36, wherein said compound is administered to[[a]] said patient and is formulated together with a pharmaceutically suitable carrier into a pharmaceutically acceptable composition.

38. (New) A pharmaceutically acceptable composition comprising:

a) a compound according to claim 32; and

b) a pharmaceutically suitable carrier.

39. (New) A method for inhibiting serine protease activity in a patient comprising the step of administering to said patient a compound according to claim 32.

40. (New) The method according to claim 39, wherein the serine protease is HCV NS3 protease.

41. (New) A method for treating or preventing a hepatitis C viral infection in a patient comprising the step of administering to said patient a compound according to claim 32.

42. (New) The method according to claim 41, wherein said compound is administered to said patient and is formulated together with a pharmaceutically suitable carrier into a pharmaceutically acceptable composition.

43. (New) The compound according to claim 1, wherein Z is phenyl, wherein any carbon atom is optionally substituted with J.